

LOW COST OPTICAL INTERCONNECT FOR FIBER OPTIC SYSTEM

ABSTRACT OF THE DISCLOSURE

[22] A single channel optical interconnect for a fiber optic system includes a penetrator made of optically transmissive material and configured for insertion along the length of a plastic optical fiber for transferring light between the optical fiber and an optoelectronic device. A multiple channel optical interconnect uses a linear array of optoelectronic devices and corresponding optically transmissive penetrators. The penetrators may be pyramidal or conical bodies made of plastic or glass that are positioned above corresponding vertical cavity surface emitting lasers (VCSELs). The penetrators may also be etched directly into the substrates of bottom emitting VCSELs. The penetrators may have specially tailored side wall angles, or coatings, to facilitate coupling into the optical fibers and minimize back reflections into the VCSELs.